FIELDKING

MOUNTED OFFSET DISC HARROW

BERI UDYOG PVT. LTD.
INDIA
(An ISO 9001-2008 Company)

OPERATOR MANUAL/ SERVICE MANUAL / PART CATALOGUE

MOUNTED OFFSET
DISC HARROW

OPERATOR MANUAL

BERI UDYOG PVT. LTD.

(An ISO 9001-2008 Company)
100-101, HSIDC, Sector-3, Karnal-132001 (Haryana), INDIA
Tel. : +91-184-2221571 , 72 ,73. Fax.: +91-184-2221574
E-mail:- **fieldking@gmail.com, info@fieldking.com**
Website: - **www.fieldking.com**

TO THE PURCHASER

This manual contains valuable information about your new “FIELDKING” Mounted offset disc harrow. It has been carefully prepared to give you helpful suggestions for operating, adjusting, servicing and ordering spare parts.

Keep this manual in a convenient place for quick and easy reference. Study it carefully. You have purchased a dependable and sturdy Mounted offset disc harrow, but only by proper care and operation can you expect to receive the service and long life designed and built into it.

Sometime in the future your Mounted offset disc harrow may need new parts to replace those that are worn or broken. If so, go to your dealer and provide him with the model and part number.

Customer Information

Name _____

Purchased From _____

Date Purchased _____

Model No. _____

Serial No. _____

It is the purchaser and/or operator's responsibility to….

1. Read and understand the information contained in this manual.

2. Operate, lubricate, assemble and maintain the equipment in accordance with all instructions and safety procedures in this manual.

3. Inspect the equipment and replace or repair any parts that are damaged or worn which under continued operation would cause damage, wear to other parts, or cause a safety hazard.

4. Return the equipment or parts to the authorized FIELDKING dealer, from where it was purchased, for service or replacement of defective parts that are covered by warranty. (The FIELDKING Factory may inspect equipment or parts before warranty claims are honored.)

5. Payment of all costs incurred by the dealer for traveling to or transporting the equipment for warranty inspection and claims.

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1. TECHNICAL DATA

1.1 INTRODUCTION

This handbook contains the use and maintenance instructions with a list of the spare parts of the Disc Harrow.

This Disc harrow is equipped with heavy-duty channel frame specially designed for harrowing / land preparation of rough soil (Secondary finer operation).

Regular and satisfactory operation together with economic and long lasting use of the implement depends on the compliance with instructions given in this handbook.

Compliance with the instructions in this handbook is also important since Manufacturer declines all and every responsibility for damage to persons or property caused by negligence and failure to comply with these instructions.

1.2 WARRANTY

When the machine is delivered, check that it has not been subjected to damage during transport and that the accessories are in a perfect condition and complete.
Any claims following the receipt of damaged goods shall be presented in writing within 8 days from the receipt of the goods.
The purchaser may only make the claims under guarantee when he has complied with the warranty conditions in the supply contract.

1.3 WHEN THE WARRANTY BECOMES VOID

Besides the cases specified in the supply agreement, the guarantee shall in any case become void:
When the implement has been used beyond the specified power limit like (Tractor Horse Power)
When repairs made by the customer without authorization from the manufacturer or owing to installation of spurious spare parts, the machine is subjected to variations and the damage can be ascribed to these variations.
When the user has failed to comply with the instructions in this handbook.
If the implement is used in very hard/stony soil no warranty of discs will be given.
No warranty will be given if the service and greasing is not done on time.

1.4 WARNING

Thoroughly read the instruction manual before proceeding with the various operations.
Maintain the harrow as per the instructions of this handbook to be entitled for warranty.

2. USAGE INSTRUCTIONS

2.1 BEFORE USE & ADJUSTMENTS

1. Before mounting of disc harrow make sure that all nuts & bolts are properly secured.
2. Also determine soil and trash conditions of the field and make the preliminary adjustments. e.g.

a) Disc gang angle adjustment :-

Gang angle (Angle between two gangs) ranges between 40^0 to50^0. The angle can be increased for better penetration in dry soil while it should be reduced to avoid plugging in wet soil.

b) Disc harrow leveling: - To eliminate uneven penetration and side draft, leveling is done by means of top link. While tractor pulls to right the rear gang should be lowered a little. When the tractor pulls to the left the rear gang should be raised.

c) Scrapper adjustment:-

The scrapper can be adjusted by loosening the bolts at the scrappers clamp.

d) Depth control:-

The depth at which the implement is required to work is controlled hydraulically by raising or lowering the control lever on the tractor.

e) Disc harrow penetration :-

Factors affecting disc harrow penetration are:-

- Angle of the gang
- Weight of the harrow
- Disc diameter
  Disc sharpness
  (Blunt disc increases the draft considerably, check the disc sharpness)
- Angle of hitch

2.2 ATTACHING THE HARROW TO THE TRACTOR

1. Place the harrow duly leveled on the flat piece of land.
2. Reverse the tractor to the harrow (Do not drag the harrow up the tractor)
3. Attach the left arm of the tractor to the harrow first.
4. Attach the central arm to the harrow. To attach, turn the screws on both sides to an equal length. If the arm is too short or too long, turn the screw to adjust both at the same time until aligned with the hole on the central arm.

5. Attach the lower right arm, turn the screw until the mounting pin is at the same level as the hole on the tractor arm. If the gap between the hole and mounting pin is too close or too distant, turn the control arm in or pull it away to an appropriate distance. You may have to adjust both height and distance at the same time. When the hole at tractor arm and mounting pin are even, insert the pin in the hole and lock it with the lynch pin.
6. After attaching the harrow, lift it and adjust the control arm parallel to the ground. When you look from both rear or sideways, the discs should all be touching the ground uniformly.

2.3 WARNING FOR THE DRIVER

- Before harrowing check all nuts & bolts of the disc harrow.
- Be vigilant about the tree roots and stones. Don't harrow on stony soil.
- Tractor should be in first high or fourth low gear.
- Don't allow anyone to come across the harrow.
- Lift the disc harrow on every turn.
- Lift the harrow before approaching the road.

1.4 SAFETY

Understanding the Machine Safety Labels

Safety- Alert Symbol

The machine safety labels shown in this section are placed in important areas on your machine to draw attention to potential safety hazards

On your machine safety labels, the words DANGER, WARNING, and CAUTION are used with this safety-alert symbol. DANGER identifies the most serious hazards.

The operator's manual also explains any potential safety hazards whenever necessary in special safety messages that are identified with the word, CAUTION, and the safety alert symbol.

☞ Before harrowing with Disc harrow take care that nobody stands near it.

In order to protect yourself always wear adequate clothes and shoes during the operations.

Never allow riders on the tractor or implement unless on additional seat is available.

Be careful when moving around steep graders to avoid over turn.

Never transport the implement on rough roads during the night. When operating, avoid to make sharp turns that may contact with the implement

3. MAINTENANCE

3.1 MAINTENANCE INSTRUCTIONS

If you work the Disc harrow on stony land then maintenance also increases.

1. If the soil has entered the grease nipple, then change the nipple.
2. If disc harrow is new after initial working of first two hours, tighten all nuts & bolts.
3. After every fifty hours grease all greasing points with grease gun and tighten all nuts & bolts.
4. After fifty hours, open the bracket spool of Disc harrow & cleanse with diesel oil & pump in new grease.

3.2 STORAGE OF MACHINE AFTER WORK

1. Wash the Disc harrow after work.
2. Replace the worn out nuts & bolts.
3. If disc harrow has to remain unused for long time then clean it & apply a layer of used oil for rust prevention.

These steps will enhance the life of your Disc harrow.

3.3 LUBRICATION

Please take care that high quality grease is used in spools.

3.4 INSTRUCTIONS FOR DRIVER

1. When Disc harrow is ready for use don't stand between disc harrow & the Tractor.
2. Properly fit the three point linkage as mentioned above & lock with lynch pin.
3. In case of scrapper touching the discs, loosen the scrapper bolt and readjusts the scrapper.
4. Never turn the tractor to the right or left when the harrow is engaged in the soil.
5. Never reverse the tractor when the harrow is engaged in the soil.
6. To get good results from the harrow, disc should be replaced when its diameter is reduced by 5" from its original size.

4. OPERATIONAL GUIDELINES FOR HARROW

1. Lift the harrow on turning for effective independent breaking of soil.
2. Adjust internal /external check chains to obtain implement swing range with in 50 mm (2") when raised.
3. Always maintain the correct tyre pressure to avoid wheel slippage.
4. Adding of wheel weights/water ballasting or combination of both is recommended when excessive rear wheel slippage is experienced.
5. Always set hydraulic levers correctly for draft and position control operation.

The following settings are necessary to ensure that uniform working depth is maintained:-

a.) Side draft:-

The offset disc harrow will trail correctly behind the tractor provided the side thrust of the front gang is equal to that of rear. In case it is different there will be side draft. To set it correctly, the gang angle should be changed.

b.) Severe Side Draft:-

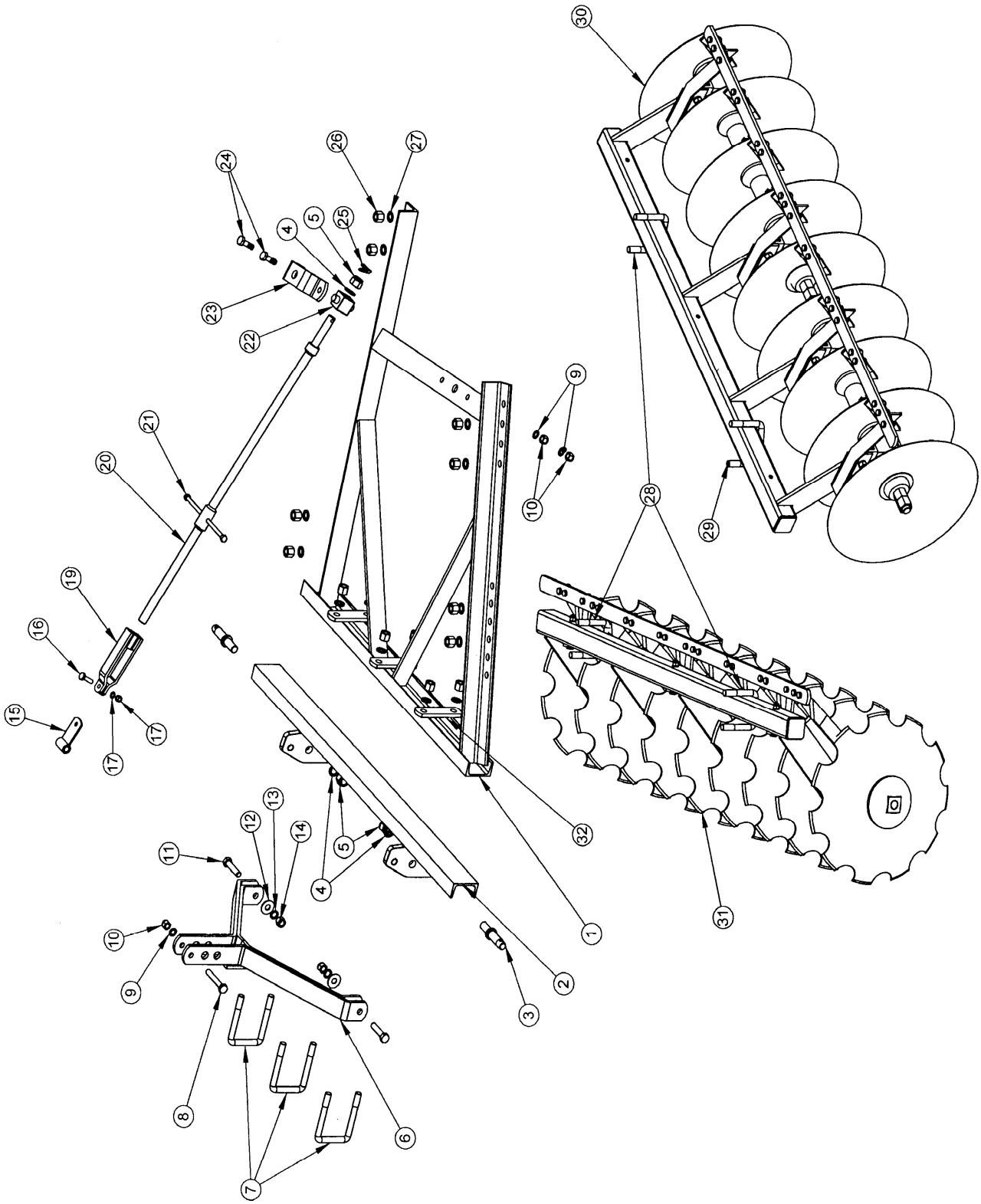
In case of severe side draft the cutting depth of rear disc gang should be increased or decreased with the help of tractor top link. For instance when tractor pulls to right, lower the rear gang and when tractor pulls to left, raise the rear gang.

Precautions during transportation:-

1. When transporting the harrow, shorten up top link to minimum length.
2. Set hydraulic levers in top raised position and lock levers.
3. Maintain the speed to avoid jumps.
4. Watch while overtaking on road.
5. Always use SMV (Slow Moving Vehicles) symbols.

5. TROUBLE SHOOTING CHART

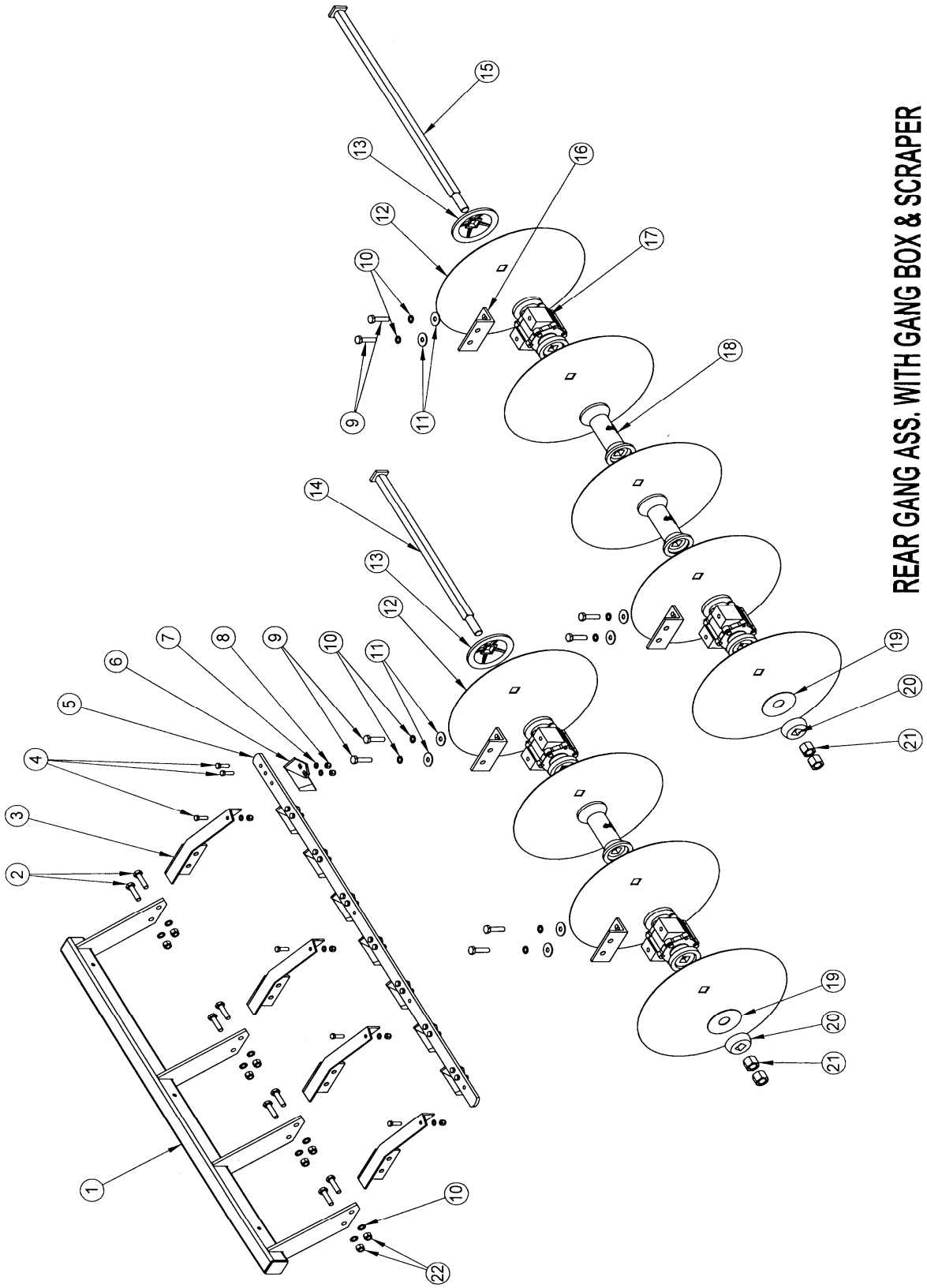
SR. NO.	POSSIBLE CAUSES	POSSIBLE REMIDIES
	A. Side Draft	
1.	Disc not running level	Adjust using leveling lever
2.	Gangs improperly angled	Set the gangs
3.	Too much left hand offset.	Swing the hitch to the left.
	B. Excessive field slippage	
1.	Tractor overloaded	Reduce angle, reduce depth.
2.	Not enough tractor ballast	Add wheel weight or liquid
	C. Not filling the furrow	
1.	Too much left hand offset	Swing hitch to the left
2.	Tractor wheel running in furrow enlarging it	Drive the tractor in unworked ground
3.	Disc too far from furrow	Keep the left front discs in furrow
4.	Rear gang set wrong, laterally.	Move the rear gang right or left. The left rear should be centered in the space between left front discs.
	D. Poor penetration	
1.	Hard ground	Swing hitch to the right. Increase angle in front and rear gang.
	E. Disc unsteady	
1.	Too much angle in gang	Reduce the gang angle
	F. Gang plugging	
1.	Field too wet.	Disc at shallow depth for first pass to speed up drying process.
2.	Gang set in maximum angle.	Reduce the angle
3.	Not using scrappers	Install scrappers.
4.	Scrappers worn out or not set properly.	Replace worn ones. Adjust scrappers close to the disc
5.	Discing too deep in damp soil	Reduce penetration



MOUNTED OFFSET DISC HARROW

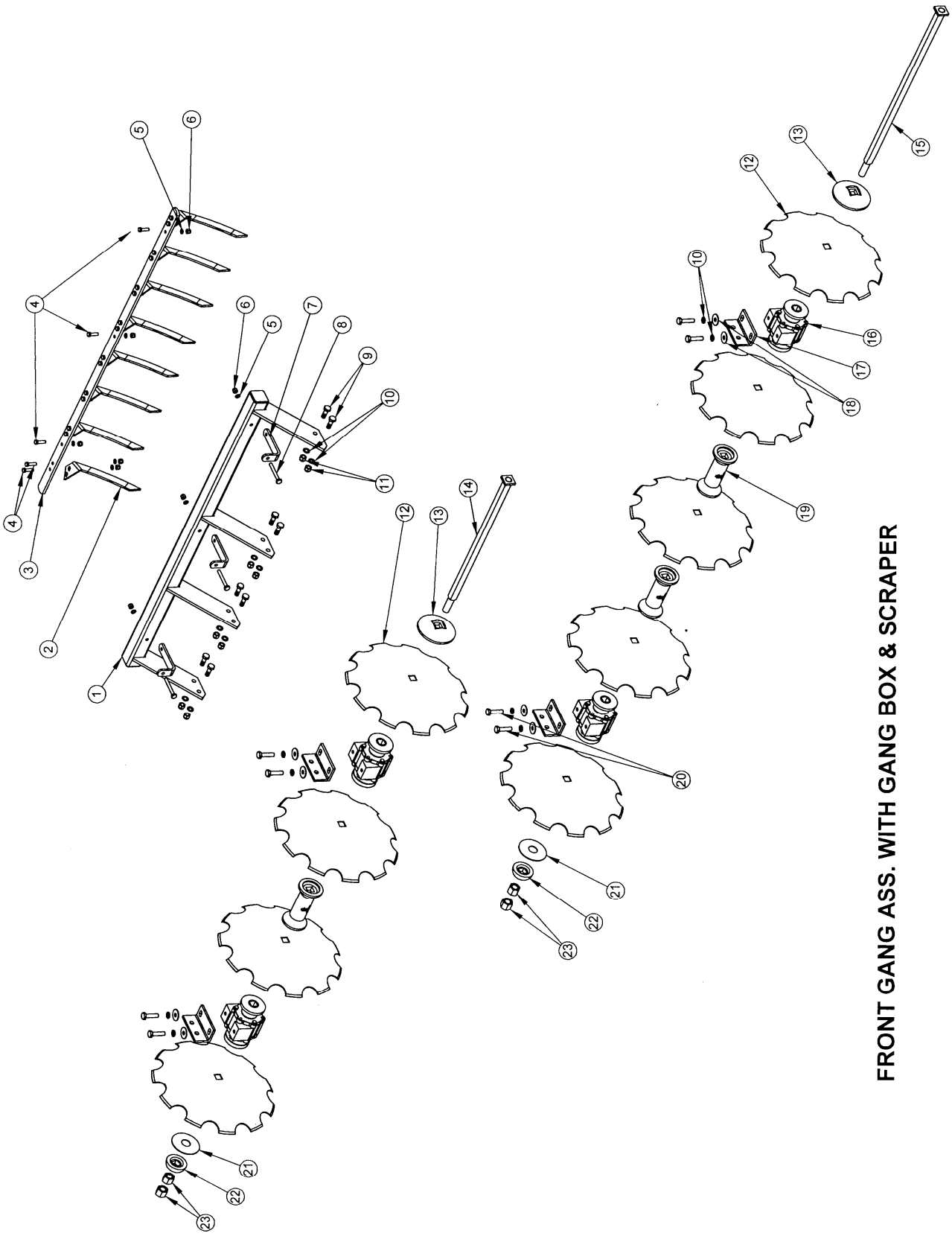
MOUNTED OFFSET DISC HARROW

SR.NO.	DESCRIPATION	PART NO.						QTY.
		6x6	7x7	8x8	9x9	10x10	11x11	6x6 TO 11x11
1	MAIN FRANE ASS.	FKMODH-501		FKMODH-514		FKMODH-523		1
2	FRONT CHANNEL ASS.	FKMODH-502		FKMODH-515				1
3	HITCH PIN 20MM	10020013						2
4	SPRING WASHER 25MM	10270007						3
5	NYLOCK NUT M25	10280008						3
6	3-POINT LINKAGE ASS.	FKMODH-503						1
7	U-CLAMP 120.5CD	10220009						3
8	HEX BOLT M16x105L	10260021						1
9	SPRING WASHER 16MM	10270005						3
10	NYLOCK NUT M16	10280005						3
11	HEX BOLT M18x75L	10260036						2
12	PLAIN WASHER 18MM	10270021						2
13	SPRING WASHER 18MM	10270006						2
14	NYLOCK NUT M18	10280006						2
15	LEVER BUSH ASS.	FKMODH-504						1
16	HEX NUT M12x45L	10260129						1
17	SPRING WASHER 12MM	10270003						1
18	NYLOCK NUT M12	10280003						1
19	CLAMP ADJUSTMENT ROD ASS.	FKMODH-505						1
20	ADJUSTMENT ROD	FKMODH-028				FKMODH-095		1
21	ADJUSTMENT ROD HANDLE	FKMODH-044						1
22	SQ. BUSH	FKMODH-029						1
23	BRACKET SQ. BUSH	FKMODH-030						1
24	HEX BOLT M16x50L	10260078						2
25	LINTCH PIN 10MM	10020022						1
26	PLAIN NUT M20x25L	10280055						14
27	SPRING WASHER 20MM	10270016						14
28	U-CLAMP 113 CD.	10220012						3
29	UCLAMP 127.5 CD.	10220011						1
30	REAR GANG ASS. WITH GANG BOX & SCRAPER	541	546	551	556	561	566	1
31	FRONT GANG ASS. WITH GANG BOX & SCRAPER	540	545	550	555	560	565	1
32	CLAMP PLATE	FKMODH-032						3


REAR GANG ASS. WITH GANG BOX & SCRAPER

REAR GANG ASS. WITH GANG BOX & SCRAPER

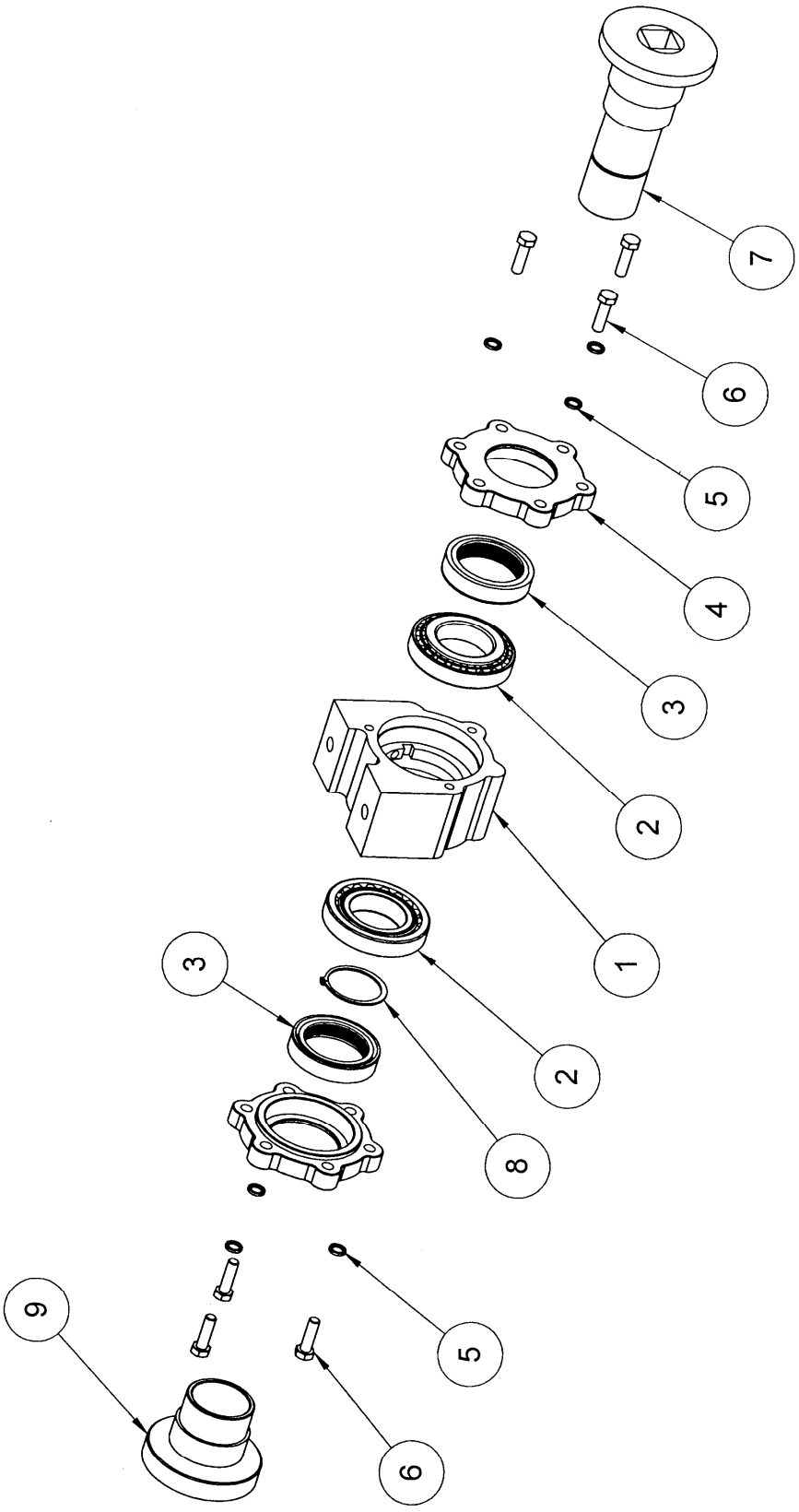
SR.NO.	DESCRIPATION	PART NO.						QTY.					
		6x6	7x7	8x8	9X9	10x10	11x11	6x6	7x7	8x8	9X9	10x10	11x11
1	REAR GANG BOX ASS.	FKMODH-507	FKMODH-512	FKMODH-517	FKMODH-520	FKMODH-525	FKMODH-527	1					
2	HEX BOLT M16 x 50L	10260078						4		6	8		
3	SCRAPER BAND ANGLE ASS.	FKMODH-510						2		3	4		
4	HEX BOLT M12x 40L	10260008						12	14	17	20	22	24
5	SCRAPER HOLDING FLAT REAR	FKMODH-041	FKMODH-054	FKMODH-071	FKMODH-080	FKMODH-097	FKMODH-104	1					
6	SCRAPER REAR GANG	FKMODH-043						5	6	7	8	9	10
7	SPRING WASHER 12MM	10270003						12	14	17	20	22	24
8	NYLOCK NUT M12	10280003						12	14	17	20	22	24
9	HEX BOLT 16 x 40L	10260120						4		6	8		
10	SPRING WASHER 16MM	10270005						8		12	16		
11	PLAIN WASHER 16MM	10270020						4		6	8		
12	PLAIN DISC 22" SQ HOLE 30MM	FKMODH-035						6	7	8	9	10	10
13	CHAPPEN BIG	FKMODH-036						1			2		
14	AXLE ROD ASS.	FKMODH-508	FKMODH-513	FKMODH-518	FKMODH-522	FKMODH-521	FKMODH-521	1			1	2	1
15					FKMODH-521		FKMODH-508				1		1
16	HUB ANGLE	FKMODH-033						2		3	4		
17	BEARING HUB ASS.	FKMODH-509						2		3	4		
18	PLAIN SPOOL (4.4 Kg)	FKMODH-038						3	4		3	4	5
19	DISC WASHER (5")	FKMODH-039						1			2		
20	CHAPPEN SMALL	FKMODH-037						1			2		
21	PLAIN NUT 28MM 7G BSW	10280014						2			4		
22	NYLOCK NUT M16	10280005						4		6	8		



FRONT GANG ASS. WITH GANG BOX & SCRAPER

FRONT GANG ASS. WITH GANG BOX & SCRAPER

SR. NO.	DESCRIPATION	PART NO.						QTY.					
		6x6	7x7	8x8	9x9	10x10	11x11	6x6	7x7	8x8	9x9	10x10	11x11
1	FRONT GANG BOX ASS.	FKMODH-506	FKMODH-511	FKMODH-516	FKMODH-519	FKMODH-524	FKMODH-526	1					
2	SCRAPER FRONT GANG	FKMODH-042						5	6	7	8	9	10
3	SCRAPER HOLDING FLAT FRONT	FKMODH-040	FKMODH-053	FKMODH-070	FKMODH-079	FKMODH-096	FKMODH-103	1					
4	HEX BOLT M12 x 40L	10260008						12	14	16	19	21	23
5	SPRING WASHER 12MM	10270003						14	16	19	22	24	26
6	NYLOCK NUT M12	10280003											
7	L-STRIP	FKMODH-031						2		3			
8	HEX NUT M12 x 100L	10260012						2		3			
9	HEX BOLT M16 x 50L	10260078						4		6	8		
10	SPRING WASHER 16MM	10270005						8		12	16		
11	NYLOCK NUT M16	10280005						4		6	8		
12	NOTCHED DISC 22" SQ.HOLE 30MM	FKMODH-034						6	7	8	9	10	11
13	CHAPPEN BIG	FKMODH-036						1			2		
14	AXLE ROD ASS.	FKMODH-508	FKMODH-513	FKMODH-518	FKMODH-522	FKMODH-521	FKMODH-521	1			1	2	1
15	AXLE ROD ASS.				FKMODH-521		FKMODH-508				1		1
16	BEARING HUB ASS.	FKMODH-509						2		3	4		
17	HUB ANGLE	FKMODH-033						2		3	4		
18	PLAIN WASHER 16MM	10270020						4		6	8		
19	PLAIN SPOOL (4.4 Kg)	FKMODH-038						3	4		3	4	5
20	HEX BOLT M16 x 40L	10260120						4		6	8		
21	DISC WASHER (5')	FKMODH-039						1			2		
22	CHAPPEN SMALL	FKMODH-037						1			2		
23	PLAIN NUT 28MM 7G BSW	10280014						2			4		



BEARING HUB ASS.

BEARING HUB ASS.			
SR.NO.	DESCRIPTION	PART NO.	QTY.
1	BEARING HUB	FKMODH-022	1
2	BEARING 30211	10050004	2
3	OIL SEAL 65x85x18T	10010003	2
4	BEARING HUB COVER	FKMODH-023	2
5	SPRING WASHER 10MM	10270002	6
6	HEX BOLT M10x35x1.5P	10260053	6
7	BEARING SPOOL	FKMODH-024	1
8	CIRCLIP 55MM (EXTERNAL)	10390001	1
9	BEARING SPOOL CAP	FKMODH-025	1